

Abstract Of The Disclosure

[0086] A vehicle control system includes a sensor cluster within a housing generating a plurality of signals including a roll rate signal, a pitch rate signal, a yaw rate signal, a longitudinal acceleration signal, a lateral acceleration signal, and a vertical acceleration signal. An integrated controller includes a reference signal generator generating a reference lateral velocity signal as a function of a kinematics road constraint condition, a dynamic road constraint condition, and singularity removal logic, all of which are responsive to sensor cluster signals. A dynamic system controller receives the reference lateral velocity signal and generates a dynamic control signal in response thereto. A vehicle safety system controller receives the dynamic control signal and further generates a vehicle safety device activation signal in response thereto.